

Date: Wed, 10 Feb 93 20:36:40 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #195
To: Info-Hams

Info-Hams Digest Wed, 10 Feb 93 Volume 93 : Issue 195

Today's Topics:

 WARNING Cancer may cause ham radio!
 Beware the Jabbawock and VEC
 CW sending test
 How can a WA4xxx call belong to a novice?
 HTX-100
 Matched 6L6s
 Max. power regulations and carrier freq regulation
 Monthly Review of Solar & Geophysical Activity for Jan 93
 No Code Proposition
 Phase Sequence Filter Quadrature Networks
 PI network in Swan 700CX
 quarter vs. half-wave vertical
 Readership Report for Radio-Related Usenet Newsgroups
 Special Event Station
 USAT92B2.ZIP - Satellite tracking program. With QBASIC source

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 10 Feb 93 22:07:28 GMT
From: ogicse!uwm.edu!cs.utexas.edu!convex!sunova!qmail.ssc.gov!
greg_chartrand@network.UCSD.EDU
Subject: **WARNING** Cancer may cause ham radio!
To: info-hams@ucsd.edu

CROSS-POST FROM SCIENCE.MEDICAL.DISEASES

In the January 1993 issue of the "Maryland Medical Journal", Dr. William B. Toat claimed that his recent study indicated a significant percentage of persons who are genetically prone to develop cancer have chosen amateur radio as a hobby. His data contradicts other recent studies in which non-ionizing radiation was implicated as a cancer risk amongst the same group of people. Dr. Toat's 10 year study of 1500 persons with a genetic history of cancer shows an increase of 30% for development of interest in "ham" radio as compared to several other activities. The other activities include a list of many somewhat obscure interests such as beer can collecting and spelunking. When interviewed in a recent local television show in Baltimore, Dr. Toat was asked specifically about the comparisons between "ham" radio and these other activities. Toat claimed that "ham" radio was as obscure as the rest of the other hobbies and statistically stood out in his data.

Last month, Dr. Toat received a \$2,000,000 grant from the National Institute of Health to continue his studies on potential disease induced hobbies. " I plan to expand my study to see what other diseases might cause interest in obscure activities", Toat explained. In addition, Dr. Toat said he will continue to collect data from the "ham" radio community to look for other medical problems which may induce interest in this activity.

Date: 10 Feb 93 15:19:17 GMT
From: furuta@MIMSY.CS.UMD.EDU
Subject: Beware the Jabbarock and VEC
To: info-hams@ucsd.edu

In article <1993Feb9.175622.12425@ttinews.tti.com> paulb@harley.tti.com (Paul Blumstein -- KD6LAA) writes:

[Summary... the VEC didn't forward the 610 along because he had a pending license application.]

>
>After our conversation, I went over the ARRL study guides and the ARRL
>FCC Rule book and could find no reference to the VEC holding up
>someone's application when another license was pending. So, it was
>either some procedure that only VECs know or something he invented. If
>the latter, he is guilty of not forwarding my Form 610 to the FCC
>within 10 days.
>

This topic has come up a fair number of times in the past six months, probably because the recent increase in the FCC's processing backlog has

been particularly noticable. The procedure you report matches that everyone else has reported. (I know that it was explained at at least one and maybe both of the testing sessions I have attended over the past few years.)

I would suspect that the VECs might technically be in violation of the regulations by not forwarding the 610's along, but since the delay is for the FCC's benefit (and apparently at their request), if the complaints reach a level that the FCC takes notice, the likely outcome will be a change in the regulations to match current practice rather than any enforced change to the practice itself.

--Rick
N3JGF

Date: 10 Feb 93 05:42:54 GMT
From: sun-barr!cs.utexas.edu!gerald@cc.utexas.edu!slcs.slb.com!ut-emx!
astro.as.utexas.edu!oo7@ames.arpa
Subject: CW sending test
To: info-hams@ucsd.edu

This has probably been mentioned, but surely the reason why a CW sending test is not required by most VEs is that even if they are of the Exalted Extra Class, they don't all still copy cw at 20+ wpm. Even if they do, they would have to tape your sending in case you wanted to argue about the number of mistakes you had made, and to check whether you were sending at 21 wpm or only 19.

With a receiving test, the VE only has to match up your answers with a key that he or she has made up beforehand, regardless of whether she or he has actually copied the code. Some of the VEs might not realize if they put the cw tape on backwards, but they know whether you got the right answers to the 10 questions. I'm sure that if I were a VE I would need a key to the written tests...

At the lower speeds, and perhaps the higher ones, I'm not sure that you really can assume that someone who understands cw can send it at the same speed. That must surely be true of the people who write down the dots and dashes and transcribe them later, and since many people learn the code from tapes rather than sitting down with a key or paddle, and many learn it solely to advance to the next license level, with no interest in sending it themselves, I would bet that plenty of people could not send cw at their receive speed.

The Brit cw test I took 100 yrs ago was both receiving and sending, but there the examiner was not just someone who was generous enough to volunteer his time every weekend, he was an approved "official" tester, and the exam

involved traveling to a major city, and was given only on relatively rare occasions. The VE system has a lot of advantages for most people!

Derek Wills (AA5BT, G3NMX)
Department of Astronomy, University of Texas,
Austin TX 78712. (512-471-1392)
oo7@astro.as.utexas.edu
oo7@emx.utexas.edu

Date: Tue, 2 Feb 1993 14:59:08 GMT
From: spsgate!mogate!newsgate!usenet@uunet.uu.net
Subject: How can a WA4xxx call belong to a novice?
To: info-hams@ucsd.edu

In article <1993Feb1.232142.16269@VFL.Paramax.COM>
rossi@gvlf9-q.gvl.unisys.com (Pete Rossi) writes:
> I worked a station in the novice roundup this past weekend with a 2 X 3
> WA4xxx type call. He was signing /N.
>
> How can this be? Back in the 70's before the current callsign structure
> was implemented, novices got WN calls which became WA, WB, or WD
> (depending on the call area) when they upgraded.
>
> So, how could this guy end up with a WA4 call and still be a novice?
>
Could it be he was working a club station??????

Mark AA7TA

Date: 9 Feb 93 22:51:09 GMT
From: dog.ee.lbl.gov!hellgate.utah.edu!cs.utexas.edu!zaphod.mps.ohio-state.edu!
howland.reston.ans.net!usc!isi.edu!gremlin!cam.nad.northrop.com!
jmeacham@network.UCSD.EDU
Subject: HTX-100
To: info-hams@ucsd.edu

In article <rrgd50-050293094114@222.5.80.3> rrgd50@email.sps.mot.com (Chris Terwilliger) writes:
> Now that the rat shack has dropped the closeout price on this radio
> to \$159, does anybody have any comments on it?? I am mostly interested
> in it's usefulness for satellites. I don't know a soul who has one...
>

I have one used it mobil for a year or two and then gave it to my son
kc6ocb. Never used it for satellite work but for the price it's a
great radio.

Date: Wed, 10 Feb 1993 00:16:18 GMT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!sdd.hp.com!
hpscit.sc.hp.com!hplextra!hpfcso!perry@network.UCSD.EDU
Subject: Matched 6L6s
To: info-hams@ucsd.edu

The two critical parameters are bias point and gain. Most of these amps
use the same bias and input voltage on all the tubes.

Perry Scott
AA0ET

Date: 10 Feb 93 18:50:56 GMT
From: ogicse!uwm.edu!cs.utexas.edu!torn!waterv2.uwaterloo.ca!
oyster.watstar.uwaterloo.ca!GEDARNEL@network.UCSD.EDU
Subject: Max. power regulations and carrier freq regulation
To: info-hams@ucsd.edu

I am in search of some information regarding regulations with respect to
power and frequency allocation for low power transmitters. Up to what
transmit power can be used before a transmitter requires licensing. For
example, children's walkie-talkies and VOX bike radios transmit do not
require licensing. Also, are these devices then restricted to certain
frequency bands?

If anyone can answer those, then I would also like to know if you can use
a handie talkie on low power (not exceeding the regulation).

Thanks in advance!

Gary

.....
Gary Darnel ! Did you say something?
Elec Engineering !
Class 94 !
GEDARNEL@ELECTRICAL.WATSTAR.UWATERLOO.EDU.CA
(VE3GDE)

Date: 10 Feb 93 19:44:38 GMT
 From: news-mail-gateway@ucsd.edu
 Subject: Monthly Review of Solar & Geophysical Activity for Jan 93
 To: info-hams@ucsd.edu

-- MONTHLY REVIEW OF SOLAR AND GEOPHYSICAL ACTIVITY --
 Summary for January 1993

Report compiled by the
 Solar Terrestrial Dispatch
 P.O. Box 357
 Stirling, Alberta
 T0K 2E0, Canada

Data Provided In-Part Courtesy of the
 Space Environment Services Center, NOAA
 and the
 NRC / Dominion Radio Astrophysical Observatory
 Penticton, British Columbia, Canada

MONTHLY ACTIVITY SUMMARY FOR JANUARY 1993

We are now in month 77 of solar cycle 22. The number of energetic events in January dropped substantially over the number of events observed in December. There were 165 flares (optical and x-ray) observed during the month of January. This is down by 42 percent over December's value of 284 events. A breakdown of the energetic events for the last four months follows below, together with a summary of the percentage increase or decrease in the number of energetic events amongst the four months. Negative percentages represent decreases. For example, January had 50.6 % fewer energetic events than November 1992. November 1992 had 17.6 % more energetic events than December 1992.

	JAN '93	DEC '92	NOV '92	OCT '92
Major	0	0	1	1
Minor M-class	2	4	7	24
Class C or smaller	163	280	326	394
Total	165	284	334	419
Percentage Change	JAN XXXXXXXXX	DEC + 72.1 %	NOV - 41.9 %	OCT - 50.6 %
	DEC + 72.1 %	NOV XXXXXXXXX	DEC - 15.0 %	OCT - 32.2 %
	NOV +102.4 %	DEC + 17.6 %	NOV XXXXXXXXX	OCT - 20.3 %
	OCT +153.9 %	NOV + 47.5 %	DEC + 25.4 %	OCT XXXXXXXXX

The monthly sunspot number for January was 92.1 as computed by the SESC. The preliminary RI international sunspot number for January was 59.1. These values are the lowest sunspot numbers observed since the beginning of this solar cycle.

The monthly 10.7 cm solar radio flux for January was 121.0. This is the lowest monthly 10.7 cm solar flux value observed since September 1992 when the monthly solar flux dipped to 116.8.

The largest flares of January were of equal-magnitude in x-rays (class M1.1 flares) and optically uncorrelated. The first occurred at 0436Z on 02 January. A simultaneous bright surge was observed over the northwest limb suggesting this event originated from departed Region 7376 (N17,L=349). This region crossed the west limb on 31 December and was responsible for a class M2.6/SN event with a minor Type II sweep on 31 December at 0222Z. It was in a state of growth as it crossed the west limb with an observed DAO optical configuration on 30 December when it was located at N15W78.

The second minor M-class flare of January 1993 occurred at 2301Z on 31 January and was also rated a class M1.1 event. A bright-surge on the east limb accompanied this event. Both of the minor M-class flares observed this month were fairly long in duration, although this latter event was not associated with any Type II or IV sweeps. However, it was preceded approximately 8 hours earlier (at 1500Z on 31 January) by a significant long-decay class C6.3 flare that was associated with surging on the southeast limb near S12. The x-ray signature was typical of a limb-event and suggested that the region(s) responsible for this activity were in a particularly energetic frequent-flaring state. East-limb Ca XV emissions were on the rise near the end of the month.

The list of minor M-class or greater flares and associated radio emissions observed during January follows:

SUMMARY OF MAJOR ENERGETIC EVENTS

Date	Begin	Max	End	Xray	Op	Region	Locn	2695 MHz	8800 MHz	15.4 GHz
------	-------	-----	-----	------	----	--------	------	----------	----------	----------

NO MAJOR ENERGETIC EVENTS OBSERVED.

SUMMARY OF MINOR M-CLASS EVENTS

Date	Begin	Max	End	Xray	Op	Region	Locn	2695 MHz	8800 MHz	15.4 GHz
------	-------	-----	-----	------	----	--------	------	----------	----------	----------

02 Jan: 0419 0436 0506 M1.1

31 Jan: 2248 2301 2316 M1.1

The geomagnetic field in January was slightly more active than in December. The estimated planetary A-index for January was 13, compared with 11 in December. There were no reported sudden magnetic impulses at Boulder for the month of January 1993.

The most disturbed day was 31 January. A disturbance gradually commenced near 0300Z on 31 January and intensified to strong minor storm levels by the end of the day. High latitudes reached major storm levels with periods of brief severe storming reported over some stations. A clear source for this disturbance was not apparent, but was likely related to an east-west elongated negative-polarity coronal hole in the southern solar hemisphere. Kitt Peak 10830A imagery suggests this hole may have been a finger-extension of the southern polar hole. Conditions returned to mostly unsettled levels on 01 February.

RECENT SOLAR INDICES (PRELIMINARY) OF THE OBSERVED MONTHLY MEAN VALUES
Last Updated February 10, 1993

	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed		Ratio	Smooth	Values	Penticton	Smooth	Smooth	
	SESC	RI	RI/SESC	SESC	RI	10.7 cm	Value	Ap	Value
	YEAR = 1989								
Jan:	203.2	161.6	.80	189.2	141.9	235.4	190.2	19	16.7
Feb:	211.0	164.5	.78	196.0	144.7	222.4	194.0	15	17.0
Mar:	176.8	131.0	.74	204.1	149.4	205.1	199.7	41	17.6
Apr:	172.3	129.3	.75	209.9	153.1	189.6	204.4	23	18.2
May:	207.0	138.4	.67	216.4	156.5	190.1	209.3	16	18.8
Jun:	297.3	196.0	.66	220.1	157.9	239.6	213.1	17	19.2
Jul:	193.9	126.8	.65	221.1	158.1	181.9	212.6	8	19.1
Aug:	243.0	166.8	.69	221.5	157.4	217.1	209.7	20	19.3
Sep:	240.7	176.8	.74	221.3	156.3	225.9	207.2	17	18.8
Oct:	217.4	158.5	.73	223.2	157.1	208.7	206.3	21	18.3
Nov:	255.0	173.0	.68	223.4	157.3	235.1	206.1	19	18.4
Dec:	217.8	166.1	.76	217.3	153.3	213.0	203.3	16	18.4
	YEAR = 1990								
Jan:	239.3	177.3	.74	212.4	150.6	210.1	200.4	14	18.6
Feb:	184.7	130.5	.71	213.9	152.9	178.3	200.5	23	18.8
Mar:	198.6	140.3	.71	212.7	152.0	188.8	198.7	23	18.6

Apr:	196.1	140.3	.72	210.5	149.3	185.3	195.6	27	18.3
May:	187.7	132.2	.70	208.1	147.0	189.7	192.4	16	17.6
Jun:	168.9	105.4	.62	205.3	143.8	170.9	189.9	16	16.8

Jul:	204.3	149.4	.73	203.8	140.6	180.7	190.4	14	16.2
Aug:	269.4	200.3	.74	206.3	140.5	222.6	193.9	19	15.4
Sep:	186.4	125.2	.67	211.1	142.1	177.4	198.3	14	15.0

Oct:	219.0	145.5	.66	213.1	142.1	182.0	200.6	15	14.8
Nov:	196.1	131.4	.67	213.7	141.7	184.3	201.2	9	14.4
Dec:	208.0	129.7	.62	216.1	143.9	204.9	202.7	7	15.7

YEAR = 1991

Jan:	213.5	136.9	.64	220.5	147.6	229.4	205.5	8	17.4
Feb:	270.2	167.5	.62	221.5	147.6	243.0	206.3	10	18.4
Mar:	227.9	141.9	.62	220.7	146.6	230.0	205.9	27	19.1

Apr:	215.9	140.0	.65	220.7	146.5	198.8	206.8	17	20.0
May:	182.5	121.3	.66	219.6	145.5	190.3	207.1	18	21.7
Jun:	231.8	169.7	.73	218.9	145.2	206.8	207.4	44	23.0

Jul:	245.7	173.7	.71	219.5	146.3	212.0	207.7	27	23.6
Aug:	251.5	176.3	.70	218.3	146.5	210.3	206.8	30	24.7
Sep:	185.8	125.3	.67	214.2	144.7	180.6	203.9	20	25.0

Oct:	220.1	144.1	.65	208.4	141.6	201.3	199.7	31	24.3
Nov:	169.0	108.2	.64	202.2	137.9	172.0	195.4	33	24.1
Dec:	217.7	144.4	.66	193.7	131.6	223.9	188.9	15	23.0

YEAR = 1992

Jan:	217.9	149.3	.69	183.3	123.6	217.6	181.8	14	21.1
Feb:	238.2	159.6	.67	171.8	115.2	232.1	174.8	31	19.8
Mar:	160.5	106.9	.67	161.6	108.0	171.3	168.5	14	19.4

Apr:	144.0	99.8	.69	154.3	103.1	158.5	162.9	11	18.9
May:	106.3	73.8	.69	148.9	100.1	125.4	158.8	21	17.5
Jun:	104.7	65.2	.62	143.3	96.9	116.7	154.2	15	16.5*

Jul:	121.4	85.7	.71	134.3	90.6*	132.3	146.6*	10	16.3*
Aug:	99.5	64.5	.65			122.1		15	
Sep:	93.8	63.9	.68			116.8		25	

Oct:	136.2	88.3	.65			130.8		15	
Nov:	124.3	92.0	.74			145.2		14	
Dec:	127.4	83.3	.65			139.1		11*	

YEAR = 1993

Jan:	92.1	59.1*	.64*			121.0		13*	
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* = Preliminary estimates, Unmarked = Final Values.

The lowest smoothed sunspot number for Cycle 21, RI = 12.3, occurred in September 1986. The sunspot maximum for this cycle (cycle 22) occurred in July 1989, with a peak smoothed sunspot number (RI) of 158.1.

Note: Prior to June 1991, the 10.7 cm solar radio flux measurements originated from the Algonquin Radio Observatory near Ottawa. From June 1991 onward, the flux has been (and will continue to be) measured from the Dominion Radio Astrophysical Observatory at Penticton, British Columbia, Canada.

DAILY VALUES OF SOLAR FLUX AT 2800 MHz (PENTICTON-DRAO) AT 2000 UT

Data Valid for January 1993

Data Courtesy of the National Research Council of Canada
Herzberg Institute of Astrophysics
Dominion Radio Astrophysical Observatory
Penticton, British Columbia
CANADA

Series D is the best estimate of absolute value and is obtained by using the multiplier 0.90 recommended by Commission V of URSI.

1993	Observed	Adj to 1 AU	
	Series C	Series C	Series D
1	122.3	118.3	106.5
2	121.4	117.4	105.7
3	124.7	120.6	108.5
4	121.1	117.1	105.4
5	124.9	120.8	108.7
6	130.1	125.8	113.2
7	130.6	126.3	113.7
8	132.9	128.6	115.7
9	128.8	124.5	112.1
10	132.1	127.7	114.9
11	131.7	127.4	114.7
12	140.2	135.6	122.0
13	141.3	136.6	122.9
14	133.1	128.8	115.9

15	126.0	121.9	109.7
16	133.4	129.1	116.2
17	126.0	121.9	109.7
18	121.6	117.7	105.9
19	116.4	112.7	101.4
20	110.0	106.5	95.8
21	106.6	103.3	93.0
22	104.2	101.0	90.9
23	106.0	102.7	92.4
24	104.8	101.6	91.4
25	105.8	102.6	92.3
26	106.5	103.3	93.0
27	110.9	107.6	96.8
28	112.0	108.6	97.7
29	114.0	110.7	99.6
30	113.0	109.6	98.6
31	119.0	115.6	104.0
Mean:	121.0	117.2	105.4

OUTSTANDING EVENTS - SOLAR RADIATION AT 2800 MHZ **

DATE	KEY	CLASS	START U.T.	MAXIMUM U.T.	DURATION	PEAK FLUX	MEAN FLUX
January			HOURS	HOURS	MINUTES		

No outstanding events.

SUMMARY OF AVERAGE SOLAR AND GEOPHYSICAL INDICES FOR JANUARY 1993

(Based on SGDB data released by the S.T.D.)

10.7 cm Solar Radio Flux: 121.04
 Sunspot Number: 92.13
 Boulder A-Index: 12.16
 Planetary A-Index: 13.45
 Background X-Ray Flux (1-8A): B2.81

Proton Fluence at > 1 MeV: 1.7597e+06
 Total (non-averaged) Fluence at > 1 MeV: 5.4550e+07
 Proton Fluence at > 10 MeV: 1.0010e+04
 Total (non-averaged) Fluence at > 10 MeV: 3.1030e+05

Average Daily Deviation of the Boulder Magnetometer: 24.13 nT

Short Wave Fadouts (SWFs): 0.06

Total Number of SWFs during Interval: 2

SWF Durations: 0.68 minutes

Total Duration of SWFs during Interval: 21 minutes

Average Daily X-Ray Flux: B4.47

Average Neutron Counts: -0.06%

Average Daily PCA: +0.03 dB

** End of Monthly Report **

Date: Tue, 9 Feb 1993 23:50:29 GMT

From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!sdd.hp.com!

hpscit.sc.hp.com!hplextra!hpfcso!perry@network.UCSD.EDU

Subject: No Code Proposition

To: info-hams@ucsd.edu

Replies to random ideas presented in this thread:

Re: VE's mentoring new hams.

There were over 20 people at last month's session with 5 VEs riding herd. I'm supposed to mentor 4 people/month?!? No, it's up to each new ham to find their own "Elmer" to help them. The VEs are busy enough... Hams should be open to helping the new hams. (And the new hams should work on helping themselves, too.)

Re: Use of "AA0ET/<I'm waiting>

Not on your life! I'll sully my own call, thank you!

The root cause of the delay is the resources at the FCC - they process ham calls for a couple hours each week (Thursday, I've heard). One proposal the ARRL has made to the FCC involves the administration of call signs by VECs. This would offload the FCC and allow the defunct calls to be issued again. There are a bunch of holes in the 1x2 and 2x1 series. The 1x3 series (N,K,W) are sparse, too.

Re: Relative difficulty of the tests

I think the current written exams are far too easy. I think we should have the equivalent of the Advanced test for each class - 50 questions makes the pool impossible to memorize. You would actually have to know something. The multiple-guess 10 question CW exams are a joke.

Someone made a comment that anyone below 8th grade doesn't have the algebra to solve the problems. Grep your database for hams holding General or higher with birthdates after 010180.

Re: CW as a LID filter

Nah, 20 wpm didn't stop me. I'm free to LID as much as I want now. :-)

On the other hand, you very seldom hear <5wpm A,K,N,W in the General part of the band. I think the higher speed code makes the US look marginally better in the eyes of the world, so incentive licensing works for CW ops.

Re: CW bandwidth

It's a floor wax! No, it's a dessert topping!

Actually, bandwidth is a function of both speed and pulse shape.

Perry Scott
AA0ET

Date: Wed, 10 Feb 1993 03:40:41 GMT
From: swrinde!zaphod.mps.ohio-state.edu!saimiri.primate.wisc.edu!
doug.cae.wisc.edu!umn.edu!csus.edu!netcom.com!rander@network.UCSD.EDU
Subject: Phase Sequence Filter Quadrature Networks
To: info-hams@ucsd.edu

This posting is an inquiry to see if anyone has had any experience with "phase sequence filters" to produce quadrature audio signals. So far I have found two references to these filters:

"The Art of Electronics 2nd. Ed." by Horowitz and Hill gives a short discussion and a diagram. This reference shows equal value resistors and geometrically decreasing capacitor values. They claim a 6 section filter produces +/- .5 degree

phase error over a 100:1 frequency range, but do not give any formulas for calculating component values.

The ARRL Radio Amateurs Handbook 1991 edition shows a design attributed to HA5WH where they claim the 6 section filter given produces better than 60 dB opposite sideband rejection over a 10:1 frequency range of 300-3000 Hz. (Since sideband suppression in dB= $20 \times \text{LOG}(\text{COT}(A/2))$ where A is degrees deviation from perfect quadrature, 60 dB sideband suppression implies a deviation from quadrature on the order of +/- .1 degree) The values given do not follow Horowitz and Hill's geometrically decreasing capacitance rule.

Simulation of the HA5WH network under SPICE shows quadrature to be correct to with +/- .1 degree from 300-3000 Hz. Empirical optimization shows that phase balance can be traded off for bandwidth as would be expected.

If anyone can give an explanation of the design methodology for calculating the component values of a phase sequence filter to meet a given bandwidth and deviation from quadrature criteria I would sure appreciate hearing from you.

Ray Anderson WB6TPU
rander@netcom.com
Santa Cruz, Calif.

Date: Wed, 10 Feb 1993 00:01:29 GMT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!sdd.hp.com!
hpscit.sc.hp.com!hplextra!hpfcsolperry@network.UCSD.EDU
Subject: PI network in Swan 700CX
To: info-hams@ucsd.edu

The TUNE/LOAD capacitors in the pi network transforms the impedance of the antenna as seen by the tubes. Both R and X are variable. Because of the pi network, the tube sees purely R usually in the 1000-4500 ohm range.

The usual method is to dip plate current with TUNE, then maximize RFout with LOAD. Repeat until tuned for maximum smoke in the coax. To minimize RFI, the last knob you should touch is TUNE.

When pairs of tubes are used, they are usually matched for gain and bias by the manufacturer.

Perry Scott
AA0ET

Date: Tue, 9 Feb 1993 21:18:00 GMT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!sdd.hp.com!
hpscit.sc.hp.com!hplextra!hpfco!perry@network.UCSD.EDU
Subject: quarter vs. half-wave vertical
To: info-hams@ucsd.edu

If the neighbor's phone is the problem, they might be convinced to install filtering if you demonstrate that your own phone is fine. Of course, this supposes you don't have problems in your own house.

Perry
AA0ET

Date: 8 Feb 1993 19:00 GMT
From: unogate!news.service.uci.edu!usc!howland.reston.ans.net!bogus.sura.net!udel!
gatech!destroyer!cs.ubc.ca!unixg.ubc.ca!kakwa.ucla.alberta.ca!alberta!adec23!
ve6mgs!rec-radio-info@@mvb.saic.com
Subject: Readership Report for Radio-Related Usenet Newsgroups
To: info-hams@ucsd.edu

[Note: The following is excerpted data specific to the radio-related Usenet newsgroups.]

+From: reid@decwrl.DEC.COM (Brian Reid)
+Newsgroups: news.lists
+Subject: USENET Readership report for Jan 93
+Date: 8 Feb 1993 18:01:14 GMT
+Organization: DEC Network Systems Laboratory
+Lines: 1889
+Approved: reid@decwrl.dec.com
+Message-ID: <11675aINNlt1@usenet.pa.dec.com>
+Summary: data for all groups
+Keywords: arbitron, statistics, full
+Originator: reid@torrey.pa.dec.com

This is the full set of data from the USENET readership report for Jan 93. Explanations of the figures are in a companion posting.

+- Estimated total number of people who read the group, worldwide.

	V	V	V	V	V	V	V	V	V	
										+++ Actual number of readers in sampled population
										+++ Propagation: how many sites receive this group at all
										+++ Recent traffic (messages per month)
										+++ Recent traffic (kilobytes per month)
										+++ Crossposting percentage
										+++ Cost ratio: \$US/month/rdr
										+++ Share: % of newsrdrs who read this group.
290	31000	841	76%	2037	4138.7	6%	0.18	1.8%		rec.radio.amateur.misc
358	28000	761	78%	947	1690.4	3%	0.09	1.6%		rec.radio.shortwave
444	26000	688	75%	345	347.6	7%	0.02	1.4%		rec.radio.swap
555	22000	586	75%	270	700.2	3%	0.04	1.2%		rec.radio.amateur.packet
798	17000	452	57%	407	563.0	2%	0.03	0.9%		alt.radio.scanner
801	17000	451	75%	211	530.9	2%	0.04	0.9%		rec.radio.amateur.policy
931	14000	381	76%	10	19.0	10%	0.00	0.8%		rec.radio.noncomm
956	14000	369	74%	124	273.7	3%	0.03	0.8%		rec.radio.cb
1107	11000	294	64%	178	507.1	2%	0.05	0.6%		rec.radio.broadcasting
1397	7400	198	41%	25	34.3	4%	0.00	0.4%		rec.ham-radio
1422	7000	188	32%	41	179.6	3%	0.02	0.4%		rec.radio.info
1434	6900	183	49%	2	2.8	0%	0.00	0.4%		alt.radio.pirate
1438	6800	182	40%	1	0.8	0%	0.00	0.4%		rec.ham-radio.swap
1561	5500	146	38%	3	3.5	0%	0.00	0.3%		rec.ham-radio.packet
1847	2100	56	15%	115	285.7	6%	0.04	0.1%		aus.radio

Note that the recently created newsgroup rec.radio.info has a readership approximately equal to those that still think that rec.ham-radio is still a valid heirarchy. I don't know if that's good or bad :-). I belive the cross-posting percentage is distorted by the daily Solar Reports (should these be cross-posted to rec.radio.amateur.misc?) that are longer than the usual summaries that appear in the regular newsgroups.

Astute readers of these monthly reports might note that rec.radio.amateur.misc is usually in the top-40 most expensive newsgroups in per-reader cost (high volume, low audience), but not this month.

73, Paul W. Schleck, KD3FU

pschleck@unomaha.edu

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- Postings to rec.radio.info: rec-radio-info@ve6mgs.ampr.ab.ca
- rec.radio.info administrivia: rec-radio-request@ve6mgs.ampr.ab.ca

Date: Mon, 8 Feb 1993 17:34:16 GMT
From: spsgate!mogate!newsgate!NewsWatcher!user@uunet.uu.net
Subject: Special Event Station
To: info-hams@ucsd.edu

The Motorola Amateur Radio Club of Arizona will be running a special event station to commemorate Arizona Statehood Day on February 13th, 1993.

Operating
times will be 8am MST (1500 13Feb93 UTC) until 6pm MST (0100 14Feb93 UTC).
The
club will be operating on HF bands with the call sign 'WB7DCF'. Special
QSL

certificates will be sent to acknowledge successful contacts. The special event

station will be located at the base of Gov. Hunt's tomb in Papago Park,
Ramada

#16. Visitors will be welcome and all club members are encouraged to help operate. For more information please contact Harry Dillon (N7PND) at (602) 441-2822 or p10596@email.sps.mot.com.

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* Chris Terwilliger, KB7PPT/AA                rrgd50@email.sps.mot.com *
* Motorola                                     "And now, the sequence of events, *
* 2100 E. Elliot Rd. EL374                     in no particular order."      *
* Tempe, AZ 85284                             - Dan Rather *

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Date: Wed, 10 Feb 1993 01:43:24 GMT
From: dog.ee.lbl.gov!newshub.nosc.mil!vela!tacom-emh1.army.mil!
mpg.phys.hawaii.edu!tony@network.UCSD.EDU
Subject: USAT92B2.ZIP - Satellite tracking program. With QBASIC source
To: info-hams@ucsd.edu

I have uploaded to WSMR-SIMTEL20.Army.Mil and OAK.Oakland.Edu:

pd1:<msdos.hamradio>
USAT92B2.ZIP Satellite tracking program. With QBASIC source

Fixes several date/time problems in usat92.zip. Doppler shift calculation restored. Wastes less paper when printing orbital predictions.

73's Tony AH6BW
tony@mpg.phys.hawaii.edu

End of Info-Hams Digest V93 #195
